Section 981
RANDOM SAMPLING AND TESTING (Reference - ASTM D-3665)

981.01 Purpose

The purpose of random selection of test samples, test times, and test locations is to avoid bias. Random selection provides 'best chance' sampling to provide any unit the possibility of being sampled or tested. Random selection does not preclude selective testing of any unit that exhibits a non-uniform appearance.

981.02 Procedure

Random sampling is based on the use of a suitable random number generator to select such items as test sites, test samples, and time for selection of samples. A random number generator can take the form of a random number table, a calculator, or a computer. The source of the random number generator must be recorded, as well as the random number itself.

ASTM D-3665 contains a suitable random number table as well as procedures for obtaining and using random numbers for random sampling.

The random number table provides the means by which items can be selected using the product of the random numbers and dimensions of the applicable item.

To insure that each area has an equal chance of-being tested or divided it is recommended that the same number of digits be used in the random number set as there are digits in the dimension being used. Example: If an area to be tested is 300 feet long and 12 feet wide it would be necessary to use three (3) consecutive random digits for determining the longitudinal coordinate and two (2) consecutive digits for determining the transverse coordinate.

If a random number, when multiplied by a dimension falls outside the limits of reasonable testing or time, discard the number and proceed to the next.

If the test sites, times, or samples fall within close proximity or adjacent to each other do not attempt to alter or skip any numbers as this is a statistical occurrence and is acceptable.